

ABSTRACT

The present invention relates PI3K crystals, polypeptide muteins, polypeptide fragments, antibodies thereto, nucleic acids coding for these polypeptides, methods of modifying PI3K γ activity, and methods of modulating PI3K γ activity. These include
5 polypeptides and methods thereof, relating to, e.g., phospholipid binding, lipid kinase activity, modulating Ras activity in activating the PI3K γ , binding of PI3K γ to cell membranes, and modulating protein-protein interactions with PI3K γ .